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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/719,698
Filing Date: November 21, 2003
Appellant(s): PINTO, OLIVIER

Joseph Sofer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 7, 2008 appealing from the Office action mailed August 20, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claims 1-20 under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2003/0133679 A1	MURPHY et al.,	7-2003
6,770,820 B2	SAKURAI et al.,	8-2004
6,755,995 B1	HASAGAWA et al.,	6-2004
4,417,018	OGAWA et al.,	11-1983
6,025,422	HALL	6,025,422

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 7-8, 10-11, 16-17, and 20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Murphy et al, US 2003/0133679 A1 (Murphy).

Murphy discloses a flame-retardant cable comprising a transmission element, a flammable element, and a flame-retardant coating layer of resin surrounding said flammable element, wherein said flame-retardant layer includes a polymer obtained from a polymerizable liquid composition that contains at least a precursor for said polymer, said precursor including functional groups of the type contemplated by applicants and wherein said polymerizable liquid includes at least one phosphorus group, as required by claims 1-3, further disclosing that said material is halogen-free, per claim 4. See entire document and for example [0021], [0023], and [0050]. In addition, Murphy discloses a flammable element of the type contemplated by applicants in claim 5, and that said transmission element can be a conductor of light, as required by claim 7. See for example, [0030]. Regarding claim 8, Murphy discloses that the flame-retardant coating layer is made by applying the polymerizable liquid composition on the flammable element. The limitations with respect to the specific coating techniques are process limitations within a product claim and add no patentable weight to the instant claimed product. See for example, [0029] and [0030]. Regarding claims 10-11, 16, and 20, Murphy discloses that the polymerizable liquid composition contains a reactive diluent comprising at least one acrylate functional group, wherein said reactive diluent is present in an amount within the instant claimed range. See for example, [0046]. As to claim 13, Murphy discloses that his composition can be polymerized by actinic radiation. See for example, [0031]. Also, it should be noted that the language of "when said actinic radiation is of the UV type, the composition includes

a photoinitiator" is drawn to functional language that does not add patentable weight to the instant claimed flame-retardant cable.

Murphy does not specifically disclose that the phosphorus group is "chemically bonded" to the polymer after polymerization. However, it should be noted that the flame retardants considered suitable include additives having both phosphorus groups and reactive functional groups. See for example [0050]-[0052]. Accordingly, the examiner has reason to believe that upon curing the phosphorus group is chemically bonded to the polymer after polymerization, in the absence of factual evidence to the contrary. Alternatively, the skilled artisan would reasonably presume some degree of reaction and bonding of the phosphorus group precursor during curing and polymerization of the curable composition.

Therefore, the teachings of Murphy anticipate or in the alternative render obvious the invention as claimed in present claims 1-5, 7-8, 10-11, 16-17, and 20.

1. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by or in the alternative, under 35 U.S.C. 103(a) as obvious over Sakurai et al, 6,770,820 B2 (Sakurai), for reasons of record.

Sakurai teaches a cable comprising a transmission element, a flammable element, and a flame-retardant coating of a cross-linkable resin surrounding the flammable element and comprising phosphoric acid methacrylate. See entire document and for example column 1, lines 24-33 and lines 58-61. Claim 8 is a product-by-process claim wherein process limitations add no patentable weight to the flame-retardant coating layer.

Sakurai does not specifically disclose that the phosphorus group is "chemically bonded" to the polymer after polymerization. However, it should be noted that the flame retardants considered suitable include additives having phosphorus groups and methacrylate, which is known in the art to have reactive functional groups. Accordingly, the examiner has reason to believe that upon curing the phosphorus group is chemically bonded to the polymer after polymerization, in the absence of factual evidence to the contrary. Alternatively, the skilled artisan would reasonably presume some degree of reaction and bonding of the phosphorus group precursor during curing and polymerization of the curable composition.

Therefore, the teachings of Sakurai anticipate or in the alternative, render obvious the invention as claimed in present claims 1-8.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al, 6,755,995 B1 (Hasegawa) in view of Hall 6,025,422, for reasons of record, further in view of Ogawa et al, 4,417,018 (Ogawa).

Hasegawa teaches a flame retardant cable comprising a transmission element and flame retardant coating layer surrounding said element wherein this coating layer is made of a halogen free material that includes functional groups and contains phosphorus, per claims 1-4. See column 1, lines 9-10, column 2, lines 41-57, and column 4, line 30. Also, the transmission element can be a conductor and the composition contains an anti-abrasion compound such as silicone as required by claims 7, 10-12, and 16-17. See column 5, lines 1-7. Hasegawa is silent as to the presence of a flame retardant element (claim 5-6) and a photoinitiator (claims 13-14 and 18) as

well as the polymer including phosphorus groups as a functional group. Hall teaches a flame retardant coating for optical fibers and cables, wherein said coating is applied as an outer jacket over flammable elements in known cable constructions. In addition, Hall teaches that cable jacketing compositions can contain a photoinitiator, which aids in maintaining a suitable density for the jacketing layer. It would have been obvious to form a cable of known cable construction wherein the composition is used as a jacketing layer to protect the transmission elements and flammable insulating layers from fire and scorching. The incorporation of a photoinitiator, claims 13-14 and 18 would have been an obvious variant in the composition of Hasegawa in order to obtain suitable cable jacketing density as taught by Hall. As to claims 8-9, these claims are product-by-process claims wherein patentability is based on the product itself and not the method of making. As to claim 15, it is the examiner's position that the specific acrylate is no more than a preferential selection of one acrylate from among many being used for its art recognized purpose. Accordingly, in the absence of factual evidence to the contrary, this is not construed to be a matter of invention. Ogawa teaches a flame retardant composition comprising a cross-linkable resin obtained from a polymerizable liquid composition that includes phosphorus functional groups that are added to the composition to improve resistance to heat. See columns 9-10. It would have been obvious to modify the teachings of Hasegawa by including phosphorus functional groups to improve the heat resistance of the resultant composition.

Therefore, the combined teachings of Hasegawa, Hall and Ogawa would have rendered obvious the invention as claimed in present claims 1-20.

(10) Response to Argument

Comments

Appellant's reference to the Affidavit of February 12, 2007 has been noted and appellant's argument that the examiner has cited references that do not show a phosphorus group chemically bonded to the polymer, but rather that show some form of phosphorus that is simply blended with the polymer has been noted.

The Affidavit has been considered and appellants' position is that the phosphorus groups is "chemically bonded" to the polymer by some form of covalent bond" has been noted. However, nowhere in the specification as originally filed is the terminology "chemically bonded" defined as the formation of some form of covalent bonds. It is the examiner's position that the terminology of "chemically bonded" is not specific and not necessarily limited to covalent bonds. Accordingly, the Affidavit is not sufficient to overcome the prior art rejection.

Ground 2

Appellants argue that the Murphy reference shows the use of a phosphorus group blended into the coating material. However, in the relevant paragraphs [0049]-[0053] Murphy does not show that the phosphorus is chemically bonded to the polymer after polymerization. Appellants further argue that there is nothing in Murphy that suggests the chemical bonding of the phosphorus to the polymer, rather it appears that Murphy applies the phosphorus to the compound by simple addition (blending) similar to the other prior art references cited by the examiner.

It is the examiner's position that the claim language must be given its broadest reasonable meaning. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). As such, the language of "chemically bonded" broadly embraces other means of bonding (such as Van de Waals) and is not limited to covalent bonding. As set forth previously, there is no clear factual evidence on this record that the phosphorus based flame retardants are not chemically bonded to the flame-retardant coating layer in resultant flame-retardant cable.

Ground 3

Appellants argue that Sakurai does not show that the phosphorus is chemically bonded to the polymer after polymerization, further arguing that the phosphorus taught in Sakurai is simply blended into an existing polymer, and as such, the Sakurai reference does not teach or suggest that the phosphorus group is chemically bonded to the polymer after polymerization.

The examiner disagrees. As set forth above and incorporated herein, the language of "chemically bonded" broadly embraces other means of bonding (such as Van de Waals) and is not limited to covalent bonding. Again, there is no clear factual evidence on this record that the phosphorus based flame retardants are not chemically bonded to the flame-retardant coating layer in resultant flame-retardant cable. Furthermore, it is noted that in each of the Tables in the Examples of Sakurai the adhesive is set forth as containing a polymer, organic peroxide, crosslinking aid, and silane coupling agent. There is no listing of a separate flame retardant additive containing phosphorus groups. On the contrary, Sakurai in his Examples makes no

distinction between the base polymer and the flame retardant additive. Furthermore, Sakurai discloses "phosphoric acid methacrylate" as a flame retardant additive. The very nature of the additive itself, i.e. methacrylate, lends the skilled artisan to immediately envisage reactable groups and reaction with the base polymer. Also, Sakurai discloses that after blending, his resin is subject to thermal or optical curing or crosslinking. It is well known in this art that methacrylate is optically curable. Again one of ordinary skill in this art, at the time the invention was made, would immediately envisage some reaction of the phosphoric acid methacrylate and the base polymer and that the end resin product would result in some degree of phosphoric acid chemically bonded to the polymer. There is no factual evidence on this record to the contrary.

Ground 4

Appellants argue that in the rejection of Hasegawa, Hall, and Ogawa, these references show the addition of a phosphorus group into the coating material, further arguing that the Ogawa reference does not show that the phosphorus is chemically bonded to the polymer. Appellants further argue that the phosphorus compound added as an additive and is simply placed in the polymer as a mixture component not for the purposes of being chemically bonded to the polymer after polymerization which is evident as there is no bonding suggested, nor is there any parameters provided to suggest chemical bonding such as the concentrations required, catalysts for bonding, heat necessary for the reaction etc..., as such, the Ogawa reference, even if combined with Hall and Hasegawa does not teach or suggest that the phosphorus group is chemically bonded to the polymer after polymerization.

In this regard, and as set forth previously, Ogawa teaches a flame retardant composition comprising a cross-linkable resin obtained from a polymerizable liquid composition that includes phosphorus functional groups that are added to the composition to improve resistance to heat. This teaching clearly provides a suggestion to the skilled artisan that some type of chemical bonding occurs between the phosphorus groups of Ogawa and the base polymer. As set forth previously, applicants have provided no factual evidence to the contrary. Hence, the examiner's position remains that the combined teachings of Hasegawa, Hall and Ogawa would have rendered obvious the invention as presently claimed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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